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ABSTRACT

This newsletter briefly discusses three topics generated from the continuing work in the field of education of the international Organisation for Economic Cooperation and Development (OECD) and the Centre for Educational Research and Innovation (CERI). The topics are titled: (1) The Contribution of Research, Innovation and Development to Effective Learning and Schooling; (2) The Contribution of Research, Innovation, and Development to the Understanding of New Education and Work Relationships; and (3) The Contribution of Research, Innovation, and Development to the Understanding of New Education and Socio-Cultural Relationships. In addition, it evaluates the interface between social policies and education policies of several CERI projects as to program commitment to equality of opportunity, early childhood care and education, teaching handicapped adolescents, and integration of diverse minorities. The newsletter concludes by arguing that the rate of improvement in these areas must accelerate. (JAM)

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INNOVATION IN EDUCATION

NEWS FROM THE OECD – PARIS

51

DECEMBER 1988

This news sheet gives brief notice to topics arising during the preceding four months from the Organisation for Economic Co-operation and Development's continuing work in the field of Education. Most of this is carried out by means of two parallel programmes, one being the responsibility of the OECD Education Committee and the other of the Centre for Educational Research and Innovation (CERI). Enquiries for further information should be addressed to the Director, Social Affairs, Manpower and Education, OECD, 2 rue André-Pascal, 75775 PARIS CEDEX 16, or as may be indicated in the text. Editors are welcome to use any of this material provided the source is acknowledged.

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

A SPECIAL SUPPLEMENT

CERI's 20th anniversary

The Centre's first years, 1968-78, were covered in a booklet that described progress in all its activities and resultant publications. The production of a second volume to deal similarly with the decade that followed it would, however, have been superfluous in view of the rapportage being currently provided over the period by "Innovation in Education" and by the triennial "List of OECD Educational Publications".

Instead, therefore, to meet the anniversary requirement of critically reviewing the past and probing the future for relevant options, we can do no better than draw upon a document (almost in its entirety) prepared by the Secretariat for wide-ranging discussions that have recently been conducted in the Centre. The circumstances were these:

CERI is not itself a research institution, but it relies heavily on contacts with the academic world and innovative practitioners. It is also in a good position to promote dialogue between the research and policy-making communities. For both these reasons, and bearing in mind the rapidly changing policy and research agenda, the Governing Board and the Director have felt recently that consultation with leading educational scientists would be timely. The following experts were invited:

Professor Myron Atkin, Stanford University; Professor Guy Berger, University of Paris VIII; Professor Gilbert De Landsheere, Université de Liège; Dr. Thierry Noyelle, Columbia University New York; Professor Judah Schwartz, Harvard Graduate School of Education; Vice Chancellor Malcolm Skilbeck, Deakin University, Australia; Professor Erik Wallin, University of Uppsala.

The background paper here quoted provided a basis for the discussions that ensued.

EA 020 691

CERI's origin and purpose

The OECD is essentially an international institution where the Western industrialised democracies discuss and co-operate on economic policy. Its Convention makes no reference to education, but over the years educational co-operation has become a significant branch of the Organisation.

This development began in the post-Sputnik period when the United States asked the then OEEC to mount a programme of co-operation to strengthen the output of scientific and technical manpower so as to react to expanding Soviet capabilities. This programme, of which a major feature was the renovation of science and mathematics curricula in the schools, laid the foundation for a broader OEEC – and subsequently OECD – interest in education. On the one hand, the role of the "residual" factor in explaining high rates of economic growth paved the way for an investment approach to education which had considerable influence in OECD countries (*Policy Conference on Economic Growth and Investment in Education* held in Washington D.C., 16th-20th October, 1961). On the other hand, the economic planning vogue opened the door for educational planning, and the OECD played a major role in this process.

The Organisation was then ready explicitly to accept its role in education, and eventually set up the structures which prevail today – namely an Education Committee to discuss educational policy issues and, interacting with it but not formally subordinate, CERI to make research, innovation and development contributions.

In order to understand the opportunities and constraints affecting these structures, it is necessary to paint in some of the contemporary background. OECD Governments increasingly recognize that economic and social progress depends on policy responses to problems which no longer fall neatly into single Ministerial portfolios. Thus, the educational sector (Education Committee and CERI) functions at the Secretariat level within a broader social arm which includes employment policies and social policies – the whole co-operating on major strategic issues with the economic, trade and science/technology branches of the Organisation. Since the OECD itself has the character of a policy think-tank, with a largely professional culture, the work of the Secretariat takes place in a complex, multi-disciplinary environment in which policy, theoretical and developmental ideas have to be integrated, and all related to the realities of Member countries.

There is, in consequence, a continuing tension between the view of education as interacting with a broader social and economic environment, and the internal dynamics of the educational sector itself. One of the responsibilities of the CERI Secretariat is to respond to both pressures to set out the relations between them, and in so doing help educational policy-makers to respond to new challenges and contribute to solutions.

In the 1950s and 1960s, the virtuous circle between economic growth, educational expansion and equality of opportunity meant that the theoretical underpinnings for such work were relatively easily perceived. The 1970s and early 1980s, with faltering growth, high unemployment and disenchantment with the power of governments to resolve problems led to some questioning of the role of education in the total scheme of things. Today, however, many of the big adjustments to changing economic structures, new technologies, demographic imbalance and changing social attitudes and values seem to imply new roles for education. How can children and youth be equipped for a world in which the stock of jobs turns over every ten years? If enterprises are becoming learning institutions can learning sciences bridge the gap between child and adult learning? What sort of schools, and teachers, can cope with the new tasks – and what relationships to political authority and parental power will help them? If the classical school-work-retirement life-cycle is to give way to more flexible patterns, how can institutional relations be changed? Assuming that equality of opportunity will continue to be a major preoccupation of democratic societies, how to cope with the reality that inadequate educational attainment is now leading to failing access to economic and social opportunities for some groups? These and other questions face the educational sector of the OECD. CERI's reactions to them – past and present – were formulated as follows in its contribution to the dialogue to which we have been referring.

I. THE CONTRIBUTION OF RESEARCH, INNOVATION AND DEVELOPMENT TO EFFECTIVE LEARNING AND SCHOOLING

Background

A great deal of CERI's past work has been devoted to examining the teaching-learning process and to the kinds of school environment and organisational forms that best contribute to enhancing student learnings and other outcomes. This has involved concentration on such important aspects as the nature of the curriculum, school-based curriculum development, evaluation and assessment, the creativity of the school, in-service training and the management of innovation itself. A recently completed CERI report, part of the International School Improvement Project, has analysed in great detail many of the factors that contribute to effective schooling – training of school personnel, especially headmasters, the organisation of support structures, systems of evaluation, the role of research, etc. (See W.G. Van Velzen, M.B. Miles, M. Ekholm, U. Hamayer, D. Robin, *Making School Improvement Work*, published by ACCO, Leuven, 1985).

Much of CERI's early work in the area of schooling was focused on methods of curriculum development and the introduction of new learning materials into schools. Although there was a focus on the teacher, it was generally on how he/she used the materials in a specific context and not how he/she functioned in a classroom day by day with pupils. This top down approach was not entirely satisfactory and more emphasis was then placed on the role of the teache uch CERI projects as School-based Curriculum Develo ent, In-service Learning and The Creativity of the School. In many OECD countries, major organisational reforms were taking place which tended to focus interest on the structure rather than on the inner workings of the educational establishment itself.

Between 1972-1977, a CERI project entitled the International Programme for the Learning Sciences was the only project which had implicitly focused on the learning process and the problem of informal learning. Since 1985, CERI's work on information technologies has opened up a whole new debate on the learning process based upon recent research in cognitive psychology and artificial intelligence.

Context and issues

It is being said (in some countries more strongly than in others) that we are now paying the price for this neglect of the whole school environment, and the high incidence of school failure and drop-out are being cited as the prime examples. Are we faced, therefore, with a school system in some of our Member countries which seriously neglects the learning

aspirations of a significant portion of the pupils? More particularly, is there evidence of a breakthrough in how educational differentiation can cease to be correlated to the socio-economic background of children?

The concern about the Quality of Schooling may be changing the nature of the debate. There is more discussion about school ethos, about interpersonal relationships in the school, and different organisational forms of learning. There is certainly renewed interest in research on the learning process, methods of teaching, school environment and their inter-relationships. There is, however, some confusion in Member countries about the aims and effectiveness of schooling, especially in the light of the changes in student enrolment, major new policy initiatives such as choice of schools, a national curriculum, provision to cater for special needs, etc. There is a divergence of views in these debates, some sharply focused on economic competitiveness and others more broadly concerned with individual well-being and personal development.

Much learning in schools still seems to be fragmented and lacking in relevance or interest for students. There is a lack of vigour in teaching and learning styles and despite attempts at reform in the sixties and seventies – team teaching, mixed group learning, individualised learning, interdisciplinarity – the school curriculum is still organised to a large extent around specific subjects.

There is much evidence that the information revolution is substantially changing the skills required for social and economic productivity. These skills, often called "higher-order thinking skills", namely reasoning, problem-solving, the ability to analyse, synthesise and to communicate, critical thinking and learning to learn, have been taught implicitly in the past, but have not yet received the priority which they must now receive. In our technological world, the learning of facts and data must be accompanied by an increased capacity to seek them out, process them, make sense of them and assess them.

The computer, whatever its role in improving learning, appears to be an important new research instrument for educational psychology. Because all the learning conversations are machine mediated, a complete record of the subject's behaviour is also being recorded in machine-readable form. The result is that there is potential for a much more rigorous and much more detailed empirical psychology of education to match the more elaborate theoretical work now being done.

Open questions

i) Fundamental research in areas as diverse as linguistics, logic, anthropology have begun to influence the nature of educational research. There is a movement among some researchers to postulate a new cognitive science which they claim will fundamentally affect the nature of the teaching/learning process, and consequently the type of curriculum offered by the school. Is there evidence that areas of research in cognitive science, artificial intelligence and the theory of knowledge are behind changes in some of the OECD countries?

ii) A great deal of educational debate today revolves around such terms as "quality", "performance", "excellence", "standards". However, there seems to be no general agreement on the meaning of these terms among Member countries, each bringing to them their own value orientations and therefore different meanings. Is the debate about values in education a dominant one and how is it influencing changes in the education systems of the OECD countries?

iii) Much discussion revolves around the concept of a "core" curriculum. There is no agreement either within or among the OECD countries about what this "core" should contain. There is some agreement that it must include mother tongue, a foreign language, mathematics, science and technology and humanities. How much time is therefore available for other subjects or subject areas, practical studies, religion, physical education, arts and music, etc., is still a subject of lively debate. How is this debate developing and how will it affect the balance in the curriculum and the relationship between the "core" and the "whole" curriculum? What kinds of research are necessary to clarify some of the problems posed by this dilemma?

iv) The improvement of the teaching/learning process is not just a simple matter of new curriculum or new organisational forms. We are witnessing an increasing interest in the school itself, influenced by such pioneering research as Rutter's "15,000 Hours" (M. Rutter *et al.*, *Fifteen Thousand Hours: Secondary Schools and their Effects on Children*, Open Books, London, 1979). Such research focuses on the length of the school day, different types of teaching methods and practice, peer group teaching, the daily life of the school, etc. There is much more concern with how children can be motivated to learn and what teaching/learning methods seem to encourage and stimulate learning. Is there a discernible trend towards opening up school-based research in what had been previously regarded as a closed "black box"?

v) The responsibility for education is also changing in some countries. The relationships between the centre and the periphery are moving in diverse directions. In some countries, e.g. Sweden and Australia, there is increased decentralisation, in others, e.g. the United Kingdom, an attempt to increase central power in the actual control of schools. It is postulated by both sides that such changes will increase parental choice and give the school more autonomy. How will such changes actually affect the control of the curriculum and the politics of decision-making? Will the type of educational research that governments are prepared to fund be affected by such policy decisions?

vi) It is maintained that effective schools depend upon the style of leadership and the professionalism of teachers. A great deal of research is now focused on the role of the head teacher and the interrelationship between teachers in the school. Professional bodies, both those concerned with the training of teachers and those in the private and voluntary agencies, are expressing increasing concern about the nature of schooling and about educational leadership itself. Is there a growing trend in Member countries to involve those not directly and professionally concerned with schooling in the overall functioning of the school itself? Is research being carried out to support these movements?

II. THE CONTRIBUTION OF RESEARCH, INNOVATION AND DEVELOPMENT TO THE UNDERSTANDING OF NEW EDUCATION AND WORK RELATIONSHIPS

Background

As already said, the relationships between education and work have always constituted an important part of OECD work. In the 1960s, considerable resources were devoted to different manpower planning approaches and their implication for educational planning. For instance, during this period, CERI had developed a project on "The Use of Simulation Models in Educational Planning". In the 1970s, interest was being shifted towards, on the one hand, the humanisation of working life (partly as a function of the education system raising expectations among students as to better working conditions) and, on the other hand (particularly and in the light of increasing unemployment among both young and adults), how could and should education and training systems respond? Such issues, among others, were addressed in the CERI projects on "Recurrent Education", "Education and Local Development", "Transition to Adulthood" and "Educational Responses to Changing Needs of Youth and Adults".

During the 1980s the concerns have changed again, although the issue of unemployment and education is still high on the agenda in many countries. The central issues during the 1980s tend to be focused, in particular, on the consequences of the emerging new international economy and the profound changes taking place in production and work organisation systems as a consequence and the crucial role that new technologies and intangible capital (human resources) are having in this respect.

Context and issues

Broadly speaking, the world of education and work are drawn into a turbulence created by the rapid development of an interdependent international economy with its accelerated diffusion of new technologies and the development of new markets, both in the service and the manufacturing sectors.

From the perspective of education and work relationships, this new situation seems to give rise to many new, broad and complex problems and issues. For instance, in many countries, skill shortages exist parallel with high levels of unemployment; the international economy which increasingly operates across national borderlines faces problems related to nationally regulated rules concerning work and education; the possibility of "jobless growth" raises serious problems with regard to a policy of full employment as traditionally defined and, hence, stimulates new thinking about a different but active society where paid employment is not the only kind of work activity; intangible capital (i.e., human resources) is increasingly becoming a new competitive edge in enterprises and thereby raises fundamental questions as to the future role of different forms of informal education and training facilities, both in the private and public sectors; in the emerging new economy there seems to be less and less reliance on an "employee culture" and more on an "enterprising skills culture", with potentially far-reaching implications for content and practices in youth education; in the production systems of goods and services the search for quality is growing every day while very little of this specific concern is being reflected in the debate about quality in education.

These are just a few and very broad issues that tend to attract increasing attention from researchers and policy-makers under this theme. From a more limited education point of view, they seem to imply a greater emphasis upon adult education and training; the need for new and more flexible educational provisions, including the private sector and, finally, the need for a thorough review of content and policies in youth education.

Open questions

At present, most of these issues are being addressed through both conceptual and empirical work in projects I and II in the CERI programme of work (see the "Spectrum" below). However, it could be argued that there exists a need for a more systematic assessment of the broad range of research, often interdisciplinary, devoted to these new relationships between education and work. In this respect it would seem useful if a stock taking of recent research issues and findings could be undertaken in the following areas:

i) Given the increased interest in and concern for adult education in relation to structural change, is there a need for developing and assessing existing research on adult learning? What kind of contribution can be expected from ongoing research on cognitive and/or social aspects of adult learning?

ii) Frederick Taylor's ideas of "scientific management" based on the principle that managers must strive to find the one "quickest and best" method for any given task and once it is discovered that employees must not be allowed to deviate from it, criticise it, or even think about it, are today becoming less and less a guiding principle for organising the workplace. Instead, we are witnessing radical changes at the workplace where initiative, creativity, team spirit, problem-solving are becoming the guiding principles in work organisation. In a way, this new development can be seen as being rooted, often unconsciously, in the thinking of one of the foremost philosophers of science of this century, Karl Popper, who stresses the importance of "bold ideas, speculative thought"..."our great instrument for progress is criticism"..."life is problem-solving and discovery". This shift in paradigm as to the way work is being seen and organised raises many important questions for education. Are, for instance, the principles that today guide the organisation, content and practice of the school system, sufficiently influenced by the new paradigm operating at the workplace? Or could it be argued that there is a strength in having the school system guided by more "universal education and learning principles"?

iii) In a market economy where intangible resources (human resources) are increasingly becoming a scarce resource there is bound to be an important issue concerning the pros and cons of the development of a private education and training market. What kind of challenges will such a development pose to the formal education system? Will parents and young people increasingly be faced with a choice between traditional education and a variety of provisions in a private education and training market?

iv) Despite present concerns in many Member countries about unemployment, a number of experts are predicting that several of them might soon face the problem of labour shortage due to demographic developments. Would such a situation (i.e., the job-seeker's market) stimulate a greater mobility of the labour force and the number of contingent workers and thereby decrease the scope and feasibility of enterprise-based education and training and increase the demand for recurrent education provided by the formal education system and/or a new education and training market?

v) The service sector has been the dominant job-creating sector in the leading OECD countries over the last decade and is expecting to continue to create new jobs. Already today the service sector represents over 60 per cent of total civilian employment in the OECD Member countries. The introduction of new technologies and structural change in the service sector is also eliminating a broad range of repetitive and routine jobs. This, in turn, creates on the one hand a general upskilling of the remaining and newly created jobs and, on the other hand, a serious challenge of obsolete skills and skill formation of adult workers affected by these changes. Therefore, it can be argued that there is a need for a better understanding of what kinds of new jobs are being created in the service sector. For instance, what new jobs if any are created in the public sectors? What kinds of new jobs is the private service sector itself creating? Of newly created jobs in the private sector, what is the proportion of highly qualified and less qualified jobs? Is the planning of the education system, curricula and content, sufficiently reflecting the fact that most jobs are already to be found in the service sector?

vi) The reality of a historical trend towards reduction of working time on the one hand, and a possibility of "jobless growth" on the other, poses new questions and challenges as to the way the traditional life cycle of education-work-retirement will develop. What kind of "active society" might develop where paid full-time employment is not necessarily any longer the norm and what kind of new challenges would such a development create for education?

III. THE CONTRIBUTION OF RESEARCH, INNOVATION AND DEVELOPMENT TO THE UNDERSTANDING OF NEW EDUCATION AND SOCIO-CULTURAL RELATIONSHIPS

The interface between education and social policies has been another of the ongoing concerns of the CERI programme. From the outset the role of education in the distribution of opportunity, the elimination of social and cultural inequalities, and the integration of young people into society has been one of the focuses of the Centre's programme of activity.

The grouping together of a number of activities centring on vulnerable groups of the population is in itself difficult since it risks the marginalising of social problems and the envisaging of special treatment for social questions, which in no way corresponds to the spirit in which the Centre has so far addressed these issues. On the other hand, dealing with these different fields of activity is essential in order to prevent such problems from vanishing from the purview of education policies. The principal issues involved are these:

The programmes for dealing with the educational problems of culturally and socially disadvantaged children are governed by the development that is occurring on the one hand in social policies and, on the other, in the thrusts of education policies. In their turn these two policies are influenced in relation to society's perception of educational underachievement and marginalisation, that is to say in relation to the scale and significance of poverty in contemporary societies, its causes and the effects attributed to it. It goes without saying that the Centre has never claimed that inequality was essentially a problem of education. By analysing a number of crucial educational situations that were indicative of the malfunctioning of the social system, the Centre was dealing with questions of the interaction between education and the socio-economic system, which meant that it had to address the issues involved in the formulation of intersectoral policies.

Recent developments in social policies

Until relatively recently educational underachievement was considered as a serious social problem warranting remedial or regulatory action on the part of governments. This argument presupposed the existence of a social consensus as regards the assessment of the situation, the need for a plan of action and the necessity for government intervention. It can now be seen that these parameters had been changing for some time and that consequently there had also been a change in the perception of the social problem, in the way in which it was assessed and therefore in the methods envisaged in order to resolve it. In short, it could be said that the 1980s have been characterised by a rethinking of egalitarian policies (in this connection see the OECD publication, *The Welfare State in Crisis*, 1981 and the study, also

published by OECD, *Social Expenditure 1960-1990: Problems of Growth and Control*, 1985). The argument about the earlier policies of intervention indicates that there has been a change in the perception of the social problems and that the compromises reached between dominant groups and marginal or disadvantaged groups are also in the process of changing.

Recent developments in education policies

The shift in education policies has been very marked ever since quality of education became a central concern of most governments. The discussion that took place at OECD during the meeting of the Education Committee at Ministerial level in 1985 was significant in this respect. A whole set of new issues have come to the fore in the education debate (excellence, efficiency, competition between schools, leadership, the teaching/learning process) and evidence of these is clearly to be seen in the new policies for education. Learning, intellectual achievement, the development of intellectual skills, and more widespread access to scientific education have become the prime aims overshadowing those of the past (e.g. fulfilment of the personality, the harmonious development of abilities, and the joy of discovering and investigating the world we live in). The imperatives of international competition have influenced education policies into an upward spiral involving a constant raising of the levels of knowledge and training, one of the side effects of which has undoubtedly been the marginalisation of part of the school population, those who are unable to keep pace and adjust to the new requirements.

RELEVANT ACTIVITIES IN CERI'S PROGRAMME

The interface between social policies and education policies has been a key aspect of several CERI projects, notably the following five:

1. Equality of opportunity

During the initial years of the Centre's existence much attention was focused on the effects of the expansion in education on access to it. The abundance of the education supply – a new conception of education as a consumer good was gaining ground at that time – was not in itself sufficient to ensure a fair redistribution of educational opportunities. On the contrary, the possibility of increased inequality could not be ruled out since this was facilitated by the perception of education as a consumer good and as a long-term investment good, which tilted the balance in favour of those groups that were socially the most advantaged.

CERI's work was focused on the regulatory mechanisms that were necessary in order to programme the expansion of education in such a way as to ensure the utmost equality of educational opportunity.

2. Early childhood

At the heart of the project on early childhood care and education (1973-1980) was the problem of equality of opportunity in education, i.e. the remedying of the high levels of underachievement amongst children from disadvantaged social classes. The question here was the medium- and long-term effects of early childhood education on subsequent education. The question is still unanswered. Nonetheless, some substantial progress was made: the debate about early childhood education has become less acrimonious; and preschooling has made considerable strides in the last ten years. Despite this, however, the debate on the development of preschool education is still relegated to the realm of ancillary measures, is couched in terms of the handicap or the retardation that has to be offset, and rarely manages to move outside the confines of policies of assistance.

3. Handicapped adolescents

The CERI project on handicapped adolescents has since 1978 been studying the policies and practices of education and the transition to working life in respect of a section of the population considered as "abnormal". These last ten years have seen substantial shifts in Member countries' legislation in the direction of a policy of integrating these handicapped adolescents in ordinary schools and places of work. An analysis of practical experience in this area shows that integration within these regular structures calls for radical modifications of teaching methods, curricula and forms of education, and that these modifications are also beneficial for other members of the group. The integration of "abnormal" individuals can therefore operate as an innovation and act as a stimulus to change whenever this is applied in a context that is favourable to a revision of existing structures.

However, the current move towards establishing more rigid criteria of educational performance, assessment, competition, and the learning process would seem to be at odds with a policy of integration that is tending in the direction of education for all. The question that remains unanswered is how, in a new context of increasingly competitive and exclusive education, to implement the measures that have been adopted to integrate handicapped adolescents.

4. Cultural minorities

Another vulnerable section of the population, that is faced with serious obstacles to its integration within the school system, is the children of ethnic minorities. The analysis of the multicultural education programmes introduced in Member countries leaves little room for optimism as regards the chances of an improvement in the educational prospects for children who suffer from the twofold handicap of being members at one and the same time of disadvantaged social classes and ethnic minorities that are finding it difficult to integrate within society.

5. *Immigrants' children*

CERI has carried out what is the only comparative and longitudinal statistical study that exists at an international level on the schooling of immigrants' children. In order to get a more accurate idea of the underlying causes of under-achievement an attempt was made to assess the impact of socio-economic and socio-cultural variables on academic performance. The analysis confirmed the importance of individual, family and community education strategies, but a lack of resources has meant that it has not been possible to pursue the investigation further.

Open questions

The marriage between academic excellence and equal opportunity is still proving difficult to achieve. The task of improving the output of education systems forces us to study new solutions, to reexamine some of the premises on which the policies adopted so far have been based, to realise that certain tendencies in education are leading into blind alleys, and to recognise the limitations of the present-day model of educational development.

The relationship between education and the socio-cultural environment has always been problematic and is probably unlikely to change unless a number of serious and controversial issues (not least the following) are clarified.

i) *Integration and segregation*

One of the underlying principles of policies to promote educational equality is that of integration. Segregation has been condemned as one of the main causes of inequality. Desegregation has not yet been fully achieved, but substantial progress has been made in a number of countries. Nonetheless, inequality still exists and other forms of segregation are emerging, at other levels. The question that arises, therefore, is whether this is the result of unsatisfactory implementation of these policies, due for example to a lack of resources, or the result of inherent shortcomings in the underlying theory. The debate on this subject has been biased by ideological prejudice: segregation is necessarily and inherently negative and reactionary; integration, on the other hand, is progressive and always positive. This rigidity has paralysed the debate and singularly reduced the number of alternatives considered from the standpoint of policy-making. Is it possible to overcome this policy dilemma and find new research approaches?

ii) *Cultural ties*

The cultural autonomy of schools is a crucial issue since the equilibrium that guaranteed this is increasingly threatened. Traditionally the school has always been an instrument of socialisation. Schooling is in itself an occasion for the severing of social ties, for increasing the range of options as regards future lifestyle, and for personal fulfilment. In this respect education is a gamble, the gamble of personal freedom, which can be accepted or rejected, depending on the importance that one attaches to the ties binding an individual to his community, his group, his family or his personal values. For some time new groups have been gaining an increasing hold over education: there is clear evidence of this in the programmes for the education of immigrants' children where the concept of native language and culture, which often is taken as a synonym for national culture, is the predominant consideration; or in the reforms adopted to ensure continuity between school and family, between school and community. The importance of a sense of permanence, of a sense of belonging, of loyalty to the cultural values of a community as far as the development of opportunities, of equality in education is concerned requires thorough investigation in order to highlight the implications as regards the way education is organised and the way schools function.

iii) *Epistemological relativism*

The development of multicultural education in response to the pressure of social and cultural changes (which have had as one of their effects that of substantially altering the school population in most major cities and urban areas) is calling into question the composition of the curriculum, criticised as being ethnocentric, and giving rise to plans to reform it in line with the principle of cultural relativism. This demand for change raises a number of fundamental problems such as those concerning the conception of learning as conveyed in schools, the role of rational knowledge, the organisation of knowledge and the criteria used for classifying this knowledge. Cultural relativism can lead to a loss in epistemological terms, to a reduction in the theoretical scope of the system of knowledge and cognitive methods which it is the school's role to convey. It is likely that in the future these questions will crop up increasingly frequently in the debate on the organisation of education; consequently, it is important that these issues should be clarified.

iv) *Equality of opportunity*

The results yielded by equal opportunity policies raise the problem of suitable forms of education for disadvantaged children within an increasingly competitive system.

Until recently, education policies had as their sole frame of reference the national context and the reason given for their individuality was the differences that existed between countries. Of late, however, these policies have entered on a new phase of development: the simultaneousness and similarities of the ways in which they are changing can no longer be ascribed to mere coincidence, the same causes are producing the same effects. What has changed is the referent of these policies, which has become the international rather than the national situation. OECD countries are all engaged in the same international competition and their chances of winning depend on the development of their innovative skills in the field of science and technology. In this respect it can be said that we have entered on a phase of educational rivalry: education and investment in education have constantly to be raised to new levels and targets and requirements revised upward. The policies of quality and excellence in education are a product of this environment. Where do policies of equal opportunity fit into this context, what form should they take in the future? Should it not be recognised that the era of monolithic education systems is over and that one has to think in terms of differentiated and flexible forms of education whereby it would be possible to split up the supply of education in line with individual needs and respect the principle of freedom of choice, which would seem to be a parameter as regards the quality of education, while at the same time taking care not to accentuate the inequalities with respect to access to this knowledge?

Therefore it seems that the systems of education in the advanced countries have embarked upon a new phase in their history where they are being encouraged not only to achieve ever higher levels of excellence, which are essential in order to stay in the forefront of international competition, but also to develop all of the nation's human resources, while avoiding the waste and shortcomings of the present system since, as the result of their declining population, these countries are likely in the not too distant future to find themselves faced with a shortage of skilled labour. The ways in which education systems are organised and operate, which are a legacy of the 19th century, are therefore perhaps no longer suited to coping with this challenge but, in order to do so, what form should the education systems of tomorrow take?

v) *Language skills*

The argument about bilingual education is one of the most embittered in the history of contemporary education. This controversial question is an important one since the issue is at one and the same time linguistic, political and educational.

There are many reasons for defending monolingualism in education, particularly at the primary level, including some intelligent reasons: mastery of the national language or the language that is used as such is a prerequisite for success at school, in society and at work; in other words it is a factor of equality. It should also be pointed out that education systems are often unable to deliver first-rate teaching of the official language, and this could even be used as a further argument to strengthen the case of those who advocate monolingualism in schools. On the other hand, bilingual education can be defended on similar grounds: the development of language skills is one factor in creating equal opportunities at the individual level, it enhances the value of a country's human resources (which is a significant advantage from the standpoint of international competition) and it is in tune with the doctrine of human rights. The school is a focal point for linguistic tensions. So far, in most cases the education systems have managed to deal with these, but it is more than likely that in the future this strategy will need to be reconsidered, since it is no longer satisfactory in view of the changing status of languages, the need to develop the language skills of the population (which would seem, moreover, to be an important asset with regard to present-day education systems) and of the need not to exacerbate cultural tensions. Is this analysis of the situation correct? What are the implications as regards the development of education?

SPECTRUM OF WORK IN PROGRESS

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II. Curriculum reform and school effectiveness.
III. Educational indicators.
IV. Education and new information technologies.
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VI. Active life for disabled youth.
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